

WHAT IS CLAIMED IS:

1. A method for manufacturing a surface emitting semiconductor laser, the method comprising:

forming, on the main surface of a semiconductor substrate, a lower reflection layer, an active layer in which a quantum well layer is formed, and an upper reflection layer having a surface layer which forms a light emitting surface of a light emitting region on an inner layer side or an upper layer side of said upper reflection layer;

forming a post portion in the shape of a pillar with at least the upper reflection layer partially remaining;

forming a boundary region for suppressing light emission of oscillation modes except for a specific oscillation mode; and

substantially forming a light emitting spot corresponding to the specific oscillation mode by processing a part of the region of the surface of the upper reflection layer which is exposed to the surface of the post portion.

2. A method for manufacturing a surface emitting semiconductor laser according to claim 1, wherein forming the lower reflection layer, the active layer and the upper reflection layer includes forming an etching preventing layer on the lower layer side of the surface layer.

3. The method of claim 1, wherein forming the lower reflection layer, the active layer and the upper reflection layer comprises laminating the lower reflection layer, the active layer and the upper reflection layer.

4. The method of claim 3, wherein laminating the lower reflection layer, the active layer and the upper reflection layer comprises laminating in sequence the lower reflection layer, the active layer and the upper reflection layer.

5. The method of claim 2, wherein forming the etching preventing layer comprises laminating the etching preventing layer on the lower layer side of the surface layer.